



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER OF PATENTS AND TRADEMARKS
Washington, D.C. 20231
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/742,625	12/20/2000	Frank Bor-Her Chen	25164-67462	9358

7590 02/18/2003
BARNES & THORNBURG
11 South Meridian Street
Indianapolis, IN 46204

EXAMINER

CLEVELAND, MICHAEL B

ART UNIT PAPER NUMBER

1762

DATE MAILED: 02/18/2003

9

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/742,625

Applicant(s)

CHEN ET AL.

Examiner

Michael Cleveland

Art Unit

1762

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 17 December 2002.
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 37-48 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 37-48 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____
- 4) ☐ Interview Summary (PTO-413) Paper No(s). _____
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____

DETAILED ACTION

Claim Rejections - 35 USC § 102

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

2. Claims 37-40 and 42 are rejected under 35 U.S.C. 102(b) as being anticipated by van der Hoeven (U.S. Patent 4,789,604, hereafter '604).

Claims 37, 40: '604 teaches forming a crosslinked polymer coating on paper (a compressible mat) at room temperature (i.e., without heating) (col. 9, lines 43-62) and compressing and heating the crosslinked coating and the mat to form the polymer coated substrate (col. 9, line 63-col. 10, line 4).

Claims 38-39: The substrate for the coating may be a wood panel, or a wood panel with paper attached to it (col. 6, lines 25-54). (In such embodiment, the polymerizable coating is placed on the paper (col. 6, lines 30-32). Adjacent layers may be attached by glue (col. 3, line 50-col. 4, line 5).

Claim 42: There is no indication that ions are present in the radiation-crosslinkable compositions. Therefore, they appear to be covalently cross-linked.

3. Claim 44 is rejected under 35 U.S.C. 102(b) as being anticipated by Bailey (U.S. Patent 4,505,967, hereafter '967).

'967 teaches forming an ionically crosslinked polymer coating (col. 4, lines 20-28) on a compressible mat (col. 4, lines 20-28, 63-64) and compressing and heating the crosslinked coating and the mat to form a polymer coated composite substrate (col. 4, lines 49-63).

4. Claims 37 and 42/37 are rejected under 35 U.S.C. 102(b) as being anticipated by Potts (U.S. Patent 4,238,522, hereafter '522).

'522 teaches forming a crosslinked polymer coating on a bandage (i.e., a compressible mat) by radiation or catalyst at 25 °C (i.e., without heating) (col. 3, lines 5-22; col. 7, lines 9-11; col. 8, lines 27-66) and

Art Unit: 1762

heating the crosslinked coating with the slight application of pressure (even slight pressure is sufficient to compress a bandage) and the mat to form the polymer coated substrate (col. 9, lines 1-10). The crosslinking is covalent.

5. Claims 37 and 42/37 are rejected under 35 U.S.C. 102(b) as being anticipated by Fertell et al. (U.S. Patent 4,601,951, hereafter '951).

'951 teaches forming a crosslinked polymer coating on leather (i.e., a compressible mat) (col. 7, lines 59-68). The immersion bath does not appear to be heated.

The crosslinked coating and the mat are heated and compressed to form the polymer coated substrate (col. 8, lines 24-25). The crosslinking is covalent.

6. Claims 37 and 42/37 are rejected under 35 U.S.C. 102(b) as being anticipated by Dyksterhouse et al. (U.S. Patent 4,894,105, hereafter '105).

'105 teaches forming a covalently crosslinked polymer coating on a fiber tow (i.e., a compressible mat) (col. 19, line 25-col. 20, line 16). The immersion bath does not appear to be heated, and in fact, heating the bath would contradict the teachings of increasing viscosity (col. 3, lines 40-46).

The crosslinked coating and the mat are heated and compressed to form the polymer coated substrate (col. 20, line 68-col. 21, line 14).

7. Claims 44 and 48 are rejected under 35 U.S.C. 102(b) as being anticipated by Matejka et al. (U.S. Patent 4,517,228, hereafter '228).

'228 discloses a process for coating a fiber mat with a cross-linkable coating prior to heat and pressure treatment (Abstract). Applicant asserts in the specification (p. 7) that the process of WO96/22338 causes ionic cross-linking to produce thermosetting resins by using an anionic surfactant in the cross-linking composition. '228 discloses the use of an anionic surfactant in the cross-linking composition (col. 4, lines 1-7). Therefore, '228 teaches the use of ionically-crosslinked compositions. Applicant argues that the coating crosslinks on application of heat. Thus, Applicant admits that '228 teaches the formation of a crosslinked coating. Thus, the formation of the cross-linked coating can be broken into two phases, the beginning, in which cross-linking begins and forms an at least partially cross-linked coating, and the end in which heat and pressure continues to be applied to finish the cross-linking.

Claim Rejections - 35 USC § 103

Art Unit: 1762

8. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

9. Claims 41 and 43-48 are rejected under 35 U.S.C. 103(a) as being unpatentable over van der Hoeven '604 in view of Helmer et al. (WO 96/22338, hereafter '338).

'604 teaches the use of crosslinking acrylate polymers (col. 5, lines 1-62) to provide decorative coatings. It does not explicitly teach the use of ionically crosslinked polymers.

'338 teaches the formation of a quick drying paint (i.e., a decorative coating) comprising crosslinking acrylate polymers (pp. 3, 7). It would have been obvious to one of ordinary skill in the art at the time the invention was made to have used these polymers in place of those of '604 in order to have achieved faster curing with a reasonable expectation of success because they are decorative crosslinkable acrylate polymers disclosed as having the advantage of hardening quickly. Applicant states that these polymers are ionically crosslinked, thermosetting polymers.

10. Claims 41 and 43-48 are rejected under 35 U.S.C. 103(a) as being unpatentable over van der Hoeven '604 in view of Kunz (U.S. Patent 5,157,073, hereafter '073).

'604 teaches the use of crosslinking acrylate polymers (col. 5, lines 1-62) to provide scratch-resistant coatings. It does not explicitly teach the use of thermoset, ionically crosslinked polymers.

'073 teaches the use of thermosetting, ionically-crosslinked acrylic polymers (col. 1, lines 9-66) to provide hard, protective coatings (col. 3, lines 1-10).

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to have used the thermoset, ionically-crosslinked polymers of '073 as the particular polymers of '604 with a reasonable expectation of success and with the expectation of similar results because '073 teaches that its polymers may be used to produce decorative, hard (i.e., scratch-resistant) coatings.

Art Unit: 1762

11. Claims 45-46 are rejected under 35 U.S.C. 103(a) as being unpatentable over Matejka '228 in view of Mirous et al. (U.S. Patent 5,719,239, hereafter '239).

'228 is described above. It teaches the coating of wood composite board, but does not teach a wood composite substrate with a paper glued to it. Mirous et al. teaches that wooden construction panels often comprise a layer of paper between the panel and the topcoat to obtain certain visual properties (col. 9, lines 30-67 and col. 10, lines 1-36). It would have been obvious to one of ordinary skill in the art at the time the invention was made to have used a construction panel with a layer of paper between the wooden composite and the topcoat of '228 with a reasonable expectation of success because '239 teaches the conventionality of such arrangements.

Response to Arguments

12. Applicant's arguments filed 12/17/2002 have been fully considered but they are not persuasive.

The rejection of claims 37 and 41-43 are withdrawn in view of Applicant's argument. However, the claims are newly rejected over the newly cited art above.

The rejection of claim 44 and 48 over Matejka is maintained. Applicant argues that the claims state that the polymer coating is crosslinked before heating and compressing the mat. Independent claim 37 makes such a distinction, but the language of claim 44 is open to the use of heat and compression to crosslink the coating. Accordingly, the rejection is maintained.

Applicant's arguments regarding "coating hold-out" are unconvincing because they are unsupported by a showing of evidence which is commensurate in scope with the claims.

Applicant argues that Matejka does not form an ionically-crosslinked coating. However, Applicant's specification teaches that the ionic cross-linking is caused by using an anionic surfactant in the cross-linking composition. '228 teaches such an anionic surfactant and therefore meets the claim limitation. However, see also the new rejections.

The indication of allowable subject matter in claims 40 and 47 is withdrawn in view of the newly cited art.

Art Unit: 1762

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Michael Cleveland whose telephone number is (703) 308-2331. The examiner can normally be reached on 8-5:30 M-F, with alternate Mondays off.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Shrive Beck can be reached on (703) 308-2333. The fax phone numbers for the organization where this application or proceeding is assigned are (703) 306-3186 for regular communications and (703) 306-3186 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 308-0661.



MBC

February 10, 2003



SHRIVE P. BECK
SUPERVISORY PATENT EXAMINER
TECHNOLOGY CENTER 1700